

IN THE CLAIMS:

A complete listing of all the claims is presented herewith.

Claim 1. (Currently Amended).

A porous silicate granular material, useful especially as aggregate for the production of construction materials such as including lightweight concrete, mortar or heat-insulating plaster and containing glass and a glassy-crystalline component comprising

45 to 85 wt.% SiO₂,

5 to 20 wt.% alkali oxide,

5 to 30 wt.% alkaline earth oxide and

2 to 30 wt.% of other oxides selected from the group consisting of aluminia, iron oxide, and mixtures thereof, such as Al₂O₃, and/or Fe₂O₃, whereby the glassy crystalline component accounts for 5 to 75 wt.% of the granular material, characterised in that wherein the glassy crystalline component is the sinter reaction product of a mixture of

quartz powder and/or another essentially pure fine-grained SiO₂ carrier,

powdered clay and/or powdered clay mineral,

Portland cement, caustic soda and

sodium hydroxide in hydrous solution and an expanding agent as at least one additive.

Claim 2. (Currently Amended).

A method for producing granular material, useful as according to Claim 1, aggregate for the production of construction materials including lightweight concrete, mortar or heat-insulating plaster and containing glass and a glassy- crystalline component comprising

45 to 85 wt.% SiO₂,

5 to 20 wt.% alkali oxide,

5 to 30 wt.% alkaline earth oxide and

2 to 30 wt.% of other oxides selected from the group

consisting of aluminia, iron oxide, and mixtures

thereof, whereby the glassy crystalline component

accounts for 5 to 75 wt.% of the granular material,

characterised in that wherein

- a mixture of at least

powdered glass,

quartz powder and/or another essentially pure

fine-grained SiO₂ carrier,

powdered clay and/or powdered clay mineral,

Portland cement, caustic soda,

sodium hydroxide in hydrous solution;

an expanding agent as at least one additive and

and if necessary other additives and/or accessory

water agents is prepared,

- the mixture is agglomerated at a temperature of 20°C to 150°C at normal standard pressure of 101325 Pa with the water

~~vapour partial pressure being adjusted, selected or controlled as a function of time temperature and carbon dioxide being excluded or admitted, whereby the admission of carbon dioxide is controlled by adjusting or selecting the carbon dioxide partial pressure,~~

- the intermediate product is optionally crushed and graded if necessary,

- the intermediate product thus obtained is heated at normal standard pressure of 101325 Pa with the carbon dioxide partial pressure and/or the water vapour partial pressure being adjusted, selected or controlled as a function of time temperature, to a temperature of 700° C to 1250°C and sintered and expanded at this temperature.

Claim 3. (Currently Amended).

The method according to Claim 2,
~~characterised in that~~ wherein after agglomeration the mixture is put into intermediate storage and then dried and/or heat treated.

Claim 4. (Currently Amended).

The method according to Claim 3,
~~characterised in that wherein~~ the mixing,
agglomeration, intermediate storage, drying and/or heat
treatment takes place with carbon dioxide being
~~eliminated or admitted, whereby the admission of carbon~~
~~dioxide is controlled by adjusting or selecting the~~
~~carbon dioxide partial pressure.~~

Claim 5. (Cancelled).

Claim 6. (Currently Amended).

The method according to Claim 2,
~~characterised in that wherein~~ powdered glass, quartz
powder and/or another essentially pure fine-grained
 SiO_2 carrier having a grain size of $< 40\mu\text{m}$ is used.

Claim 7. (Currently Amended).

The method according to Claim 2,
~~characterised in that wherein~~ during preparation of the
mixture silicate, oxide, hydroxide, carbonate and/or
sulphate materials are added as additives ~~and/or~~
~~accessory agents.~~

Claim 8. (Currently Amended).

The method according to Claim 2,
~~characterised in that~~ wherein during preparation of the mixture water glass solutions, filter dust, ground slag, powdered ceramic, quicklime, hydrated lime, powdered limestone, gypsum, anhydride, powdered corundum, aluminium hydrate and/or oxides, hydroxides, carbonates and sulphates of alkalis and alkaline earths are added.

Claim 9. (Currently Amended).

The method according to Claim 2,
~~characterised in that~~ wherein a mass fraction of the granular material originating from additives and/or accessory agents as end product is a maximum of 20 wt.%.

Claim 10. (Currently Amended).

The method according to Claim 2,
~~characterised in that~~ wherein carbon and/or carbon carriers such as including soot, powdered graphite, powdered coal, fine-grained silicon carbide and carbohydrate are used as swelling agents.

Claim 11. (Currently Amended).

The method according to Claim 2,
~~characterised in that wherein~~ the mixture is adjusted
as a doughy pasty mass and then agglomerated.

Claim 12. (Currently Amended).

The method according to Claim 2,
~~characterised in that wherein~~ the mixture, especially
in the form of a doughy pasty mass is subjected to heat
treatment.

Claim 13. (Currently Amended).

The method according to Claim 12,
~~characterised in that wherein~~ the heat treatment is
provided by Joule heat via an ac power supply.

Claim 14. (Currently Amended).

The method according to Claim 12,
~~characterised in that wherein~~ the heat treatment takes
place by supplying microwaves.

Claim 15. (Currently Amended).

The method according to Claim 2,
~~characterised in that wherein~~ the agglomeration is
accomplished by a granulation process or takes place

by pressing.

Claim 16. (Currently Amended).

The method according to Claim 2,
~~characterised in that~~ wherein the sintering and
expanding takes place in a rotary kiln with the
addition of a parting compound.

Claim 17. (Cancelled).